CLAIMS

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is as follows:

1. A method for manipulating data from any environment in the world to construct a database that can be used to generate definitions of the user's physical environment including buildings, terrain and other site parameters, comprising the steps of:

(a) creating and formatting a plurality of objects defining an environment of floors, walls, partitions, buildings, building complexes or compounds, terrain, foliage or other sites or obstructions;

(b) verifying the sufficiency of said plurality of objects to ensure a useful definition of said environment and notifying a user of results of said verification of sufficiency; and

(c) generating a set of formatted data in a form transportable to and usable by an engineering planning model or other application.

2. A method as recited in claim 1, said method further comprising at least one of the steps:

(d) inputting existing data, vectors or drawing objects, said existing data, vectors or drawing objects either partially or fully describing said environment; and

(e) removing extraneous drawing objects to simplify said definition of said environment;

wherein steps (d) and (e) may be performed before or after step (a), if data exists that fully or partially defines said environment.

3. A method as recited in claim 2, wherein said existing data is in the form of raster files, or in the form of vector files, wherein said raster files are

selected from the group consisting of Windows Bitmaps (BMP), Joint Photographic Experts Group format (JPEG), Graphical Interchange Format (GIF), Tagged-Image File Format (TIFF), Targa format (TGA), PICT, and Postscript, and wherein said vector files are selected from the group consisting of AutoCAD (DWG), AutoDesk (DXF) and Windows MetaFile (WMF).

4. A method as recited in claim 1, said method further comprising the step of rendering a three-dimensional view of said environment, wherein said step of rendering a three-dimensional view may be performed at any time after at least one of said plurality of objects has been created.

5. A method as recited in claim 4, wherein said rendering step includes the step of selecting a three-dimensional view of a selected perspective of said environment.

6. A method as recited in claim 1, wherein step (a) further comprises the step of adjusting partition colors, and physical and electrical descriptions of said partitions.

7. A method as recited in claim 1, wherein said formatted data defines said environment and each said object is associated with at least one of the group consisting of a specific location in said environment, an attenuation factor, a color, a height, a surface roughness value, and a reflectivity value.

8. A method as recited in claim 1, wherein step (b) automatically prompts a user to verify that each piece of necessary information to define said environment has been added to said definition of said environment before executing the verification of said each piece of necessary information, and if said user answers in the negative, prompts said user to enter missing

information before proceeding.

9. A method as recited in claim 1, wherein said formatted data comprises at least one vectorized drawing of said environment.

10. An apparatus for manipulating data from any environment in the world to construct a database that can be used to generate definitions of the user's physical environment including buildings, terrain and other site parameters, comprising:

means for creating and formatting a plurality of objects defining an environment of floors, walls, partitions, buildings, building complexes or compounds, terrain, foliage or other sites or obstructions; and

means for generating a set of formatted data in a form transportable to and usable by an engineering planning model or other application.

11. An apparatus as recited in claim 10, further comprising a means for verifying the sufficiency of said plurality of objects to ensure a useful definition of said environment and notifying a user of results of said verification of sufficiency.

12. An apparatus as recited in claim 10, further comprising a means for inputting existing data, vectors or drawing objects, said existing data, vectors or drawing objects either partially or fully describing said environment.